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 TI Calcium sodium silicate glass compositions, hollow
 microspheres obtained from the glass, and process for their
 manufacture
 IN Garnier, Patrick; Abriou, Daniel
 PA Saint-Gobain Vitrage International S. A., Fr.
 SO Fr. Demande, 17 pp.
 CODEN: FRXXBL
 DT Patent
 LA French
 IC ICM C03C003-089
 CC 57-1 (Ceramics)
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CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
FR 2671072	ICM	C03C003-089
	IPCI	C03C0003-089 [ICM,5]; C03C0003-076 [ICM,5,C*]
	IPCR	C03B0019-00 [I,C*]; C03B0019-10 [I,A]; C03C0003-076 [I,C*]; C03C0003-093 [I,A]; C03C0011-00 [I,C*]; C03C0011-00 [I,A]
	ECLA	C03B019/10C2; C03C003/093; C03C011/00B
AB		The glass contains SiO2 55-80, B2O3 5-15, Al2O3 3-8, LiO2 0-2, K2O 0-2, Na2O 11-16 (LiO2 + K2O + Na2O 11-18), MgO 0-1, CaO 0.1-3, BaO 0-6, ZnO 1-5 (MgO + CaO + BaO + ZnO 3-14), fluoride 0-5, and sulfate 0.3-0.8 weight%. The lightwt. hollow microspheres have d. <0.7 g/cm3, and are obtained by thermal expansion of particles of the soda-lime glass. The process comprises dispersing the particles in a gas stream, passing the loaded gas stream through flame at ≥1500° to expand the particles and form the hollow microspheres, and quenching the hollow microspheres. The glass is obtained by elec. melting the composition using Mo electrodes. The hollow microspheres are resistant to elevated pressures, and are suitable for use in synthetic resins and concrete.
ST		soda lime glass hollow microsphere; calcium sodium silicate glass microsphere
IT		Glass, oxide